

EXHIBIT 1



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EXPERT REPORT CONCERNING RMS TITANIC INC. 2020 EXPEDITION PLANS

My Background

I am a maritime archaeologist currently employed part time as Acting State Underwater Archaeologist for the Virginia Department of Historic Resources. Also, I am President of Sprintsail Enterprises, a maritime archaeology consulting company. I have more than fifty years' experience in underwater archaeology, specializing in deepwater sites, including:

- During 2007-2010 I served as Chief Archaeologist in the Office of National Marine Sanctuaries, National Oceanic and Atmospheric Administration (NOAA);
- From 2005-2007, I served as program manager of NOAA's Maritime Heritage Program, a program that I helped create;
- From 1992-2005 I was the manager of the Monitor National Marine Sanctuary, during which time I directed seven major expeditions to the remains of the Civil War ironclad USS *Monitor*, which lies in United States waters off the coast of Cape Hatteras;
- From 1978-1990, I served as a senior underwater archaeologist at the Virginia Department of Historic Resources, where I directed a study of shipwrecks from the Battle of Yorktown, 1781;
- I earned a Master's Degree in American Studies from the College of William and Mary and Ph.D. in Maritime Studies from the University of St. Andrews, Scotland;
- I am a Registered Professional Archaeologist meeting the Secretary of Interior's guidelines for archaeology;
- While I was employed by NOAA, I directed the recovery of the engine, gun turret and guns from the famous Civil War ironclad warship USS *Monitor*; I served as an archaeologist on deepwater expeditions to Lake Ontario and the Black Sea, headed by Dr. Robert Ballard;

and I represented the NOAA on a deepwater cruise to study shipwrecks and coral in the Gulf of Mexico;

- I was the expedition archaeologist for the 2013 recovery of engines from Apollo 11 from deep water off the Florida coast, conducted by Bezos Expeditions;
- I was expedition archaeologist for the 2001 “Ghosts of the Abyss” expedition to the RMS *Titanic*, conducted by James Cameron, and I descended in the Mir 2 Submersible to the wreck of the RMS *Titanic* to explore the wreck and wreck site; and
- I am a member of the Marine Forensics Panel of the Society of Naval and Marine Architects, which analyzes marine disasters, including *Titanic*’s loss.

To Recover or Not Recover: Each Case is Different

With the discovery of each new underwater archaeological site there is a need to assess the site and make a determination about what action should be taken to ensure that the maximum amount of scientific information is preserved, while, at the same time, taking into account the possible scientific and public benefits that might accrue from excavating the site and recovering the data and cultural material contained within.

An international agreement, the UNESCO Convention on the Protection of the Underwater Cultural Heritage, often guides decisionmakers in determining what course of action to recommend. The Annex Rules to the Convention state that preservation *in situ* should be the first option (which is not the same as the “only option”), but the rules acknowledge that circumstances may dictate that preservation in place is not the best option.

The best procedure is for all factors to be weighed by a team of professional cultural resources managers, in consultation with appropriate subject matter experts, to arrive at a satisfactory conclusion. Each site is unique and must be dealt with on a case by case basis. Some wrecks may be undergoing active destruction due to the action of storms, strong currents, or other natural factors, while others may lie in the path of proposed federal undertakings such as channel dredging or other construction projects that have been determined to be essential or critical to commerce or public safety. In previous cases, it has been determined that some shipwrecks are so threatened by imminent damage or destruction and/or are so significant and offer so much potential for new archaeological information that the benefits of excavating

outweigh considerations for leaving them undisturbed. Among the significant shipwrecks in North America for which recovery was selected over *in situ* preservation are the following:

- The Basque whaling ship *San Juan* (1567), excavated in Labrador;
- The French exploration ship *La Belle* (1686), excavated and recovered off the Texas coast through an international agreement between France and the U.S.;
- The pirate ship *Queen Anne's Revenge* (1718), excavated near the coast of North Carolina;
- The British transport *Betsy* (1781), excavated in the York River, Virginia;
- The Confederate submarine *H.L. Hunley* (1864), raised off the coast of South Carolina.

There are many instances in the real world where the UNESCO Convention is not followed. First of all, many of the most prominent industrialized nations, including the U.S. and Great Britain, have not ratified the Convention. Although many historic preservation agencies and organizations in those countries have elected to adhere to the Convention, it is my understanding that they have no legal basis for doing so. Additionally, few countries have adequate legislation or means of enforcement to protect shipwrecks (including the United States). Therefore, it is fortunate that the remains of RMS *Titanic* and its contents come within the jurisdiction of this Court. While the UNESCO Convention does not have the force of law in the U.S., it is my hope that the court will take the Convention's purpose and goals into consideration, along with its appended rules of best practice, in determining what is in the best interest of the *Titanic* and of the public, who have constantly demonstrated tremendous interest and enthusiasm in information about the wreck and passengers.

The USS Monitor: A Case Study

When the wreck of USS *Monitor* was discovered in 1973, lying in 240 feet of water off the coast of North Carolina, it was considered so highly significant that it became America's first National Marine Sanctuary, to be protected in place by NOAA. Significantly, NOAA has statutory jurisdiction over that wreck site, which lies in United States waters, and the USS *Monitor* wreck is U.S. property given its status as a former warship, so I do not believe there were any legal issues surrounding the establishment of this protection for the wreck site.

After twenty years of studying and observing the site, it became apparent that the hull was rapidly losing its structural integrity and that much of its historical fabric was going to be severely damaged or destroyed unless NOAA aggressively intervened. NOAA developed a long-range plan which documented the wreck's deterioration in great detail and presented a plan for stabilizing the hull before recovering several of the most unique and significant components so that they could be conserved and placed on exhibit for the public to appreciate and enjoy. I directed this multi-year recovery effort, which received input from scores of archaeologists, historic preservation managers, and marine engineers, as well as comments from the general public. Many of the most recognizable components of the ship were recovered, including the propeller, engine, gun turret and guns. Thus the wreck site was forever altered, but the USS *Monitor* stands as one strong example where employing *in situ* preservation as the first or preferred option would not have provided the best results.

There are similarities between *Monitor* and *Titanic*. For instance, *Monitor* was constructed of riveted hull plates and materials that are similar to those used on *Titanic*. Although 50 years older than the RMS *Titanic*, the rate of the USS *Monitor's* deterioration and the efforts undertaken to recover and preserve its key components beginning 25 years ago may have relevance to *Titanic's* situation. There are differences as well. *Titanic* is much deeper than *Monitor*, which means that they lie in very different environments, and unlike the RMS *Titanic*, on which no human remains are known to have survived, the USS *Monitor* is a war grave and the remains of two sailors were found within the recovered gun turret. These remains were respectfully processed by a joint military laboratory in an attempt to identify them, then buried with full military honors.

The RMS *Titanic*

RMS Titanic, Inc., is proposing to recover artifacts from the debris field and specified, targeted artifacts within the hull of the RMS *Titanic*. The company has compiled extensive evidence of deterioration of *Titanic's* hull and has concluded that it is important to recover the Marconi telegraph equipment before hull deterioration progresses to the point that the equipment will be damaged, destroyed or lost within the ship.

The draft recovery plan is not sufficiently developed to permit me to make a detailed assessment; however, the plan specifies personnel and equipment that I believe are well suited to the proposed recovery. Many of the team members are actively involved in similar activities on other shipwrecks, in similarly deep water, and I have worked with several of them personally. The proposed team also includes an archaeologist who would be on site to observe all activities and to participate in decision-making concerning the recovery operation as it progresses. An additional benefit of the proposed plan is that it would result in extensive high-resolution video documentation of the interior and exterior of the hull before, during, and after the recovery operation, which would be extremely useful to the Court and to NOAA in evaluating the current state of *Titanic's* hull and contents, as well as the effectiveness of the 2020 expedition and the appropriateness of future preservation and recovery proposals.

By all accounts I have seen, the rate of deterioration of the RMS *Titanic* has accelerated since I explored the wreck site in 2001. While nobody can precisely predict how many years the *Titanic's* hull has left before it collapses, researchers from Dalhousie University in Halifax, Nova Scotia predicted that "Perhaps if we get another 15 to 20 years out of it, we're doing good." (See "New Species of Rust-Eating Bacteria Destroying the Titanic," [Live Science Staff](https://www.livescience.com/9079-species-rust-eating-bacteria-destroying-titanic.html), Dec. 06, 2010, available at <https://www.livescience.com/9079-species-rust-eating-bacteria-destroying-titanic.html>).

Conclusions

I believe that an expedition by RMS Titanic, Inc. should include, at a minimum, a comprehensive high-resolution digital photographic survey utilizing the best available technology and personnel. I recommend that the expedition plan adhere to the UNESCO Convention and that the goals include extensive high-resolution video documentation of the exterior areas of the bow, stern, and primary debris field, and, if determined to be feasible, a non-disturbance video survey of accessible portions of the interior of the wreck. Very little of the interior has been surveyed, and high quality video, with accurate positioning information, would be extremely useful for assessing the current condition of the wreck, for planning future expeditions, and for determining best management practices for the site. Video should be linked to a precise navigation system that will allow subsequent development of an accurate video record of the current condition of the wreck.

In evaluating RMS Titanic's proposal, the Court may wish to decide if sufficient information is available for determining the following:

1. The extent and rate of deterioration of *Titanic's* hull and associated contents, along with predictions of the timing and sequence of hull disintegration,
2. The likelihood that artifacts such as the Marconi equipment will be damaged in the next few years if not recovered,
3. The probability that the proposed plan will result in successful data recovery without significant damage to recovered artifacts or *Titanic's* structural integrity, and
4. The potential public benefits to be attained by recovery of video data and artifacts such as the Marconi equipment, which played such a prominent role in the story of *Titanic's* loss.

Compensation and Prior Testimony

I have not provided any expert testimony in any court or in any deposition in the past four years. I have not received, nor will I accept, any compensation for reviewing RMS Titanic, Inc.'s proposed recovery plan and submissions to the Court, preparing this report, or for my anticipated testimony on February 20, 2020. I have been offered the opportunity to act as the project archaeologist on RMS Titanic, Inc.'s proposed 2020 expedition and I am inclined to accept this offer if I am satisfied with the detailed expedition plan. If I do, I will be compensated for my time and expertise at my normal hourly or daily rates. However, I have not made a final determination and my opinions expressed here and in court are in no way contingent upon, or influenced by, this offer.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'John D. Broadwater', written in a cursive style.

John D. Broadwater, PhD RPA